

Abstract of the Disclosure

The present invention provides an upper layer network device with one or more physical layer data test ports. The data supplied to the test ports reflects the data received by the network device with minimal modification and no upper layer translation or processing, and supplying the data to the test ports does not impact or disrupt the service provided by the network device. Only a small portion of the network device need be operable to send data to the test ports. In addition, the test ports are programmable while the network device is operating and without impacting the operation of the network device. Hence, the network device allows for trouble shooting without service disruption. Moreover, because the test ports are programmable -- that is, they are not dedicated -- they may be re-programmed for normal network device operation and, thus, not permanently consume any resources for testing. Furthermore, if the port card on which a test port is located fails and the network device switches over to use a redundant port card, then the test port may be re-programmed to be located on the redundant port card or another port card.